

Hall (R. B.)

Report of a Case of Extirpation
of a Calculus from the Ureter
by Combined Abdominal-
Lumbar Section.

Recovery.

BY

RUFUS B. HALL, M.D.,

CINCINNATI.

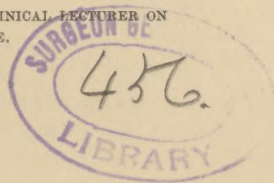


REPRINT FROM TRANSACTIONS,
1890.



REPORT OF A CASE
OF
EXTIRPATION OF A CALCULUS FROM THE URETER
BY
COMBINED ABDOMINAL-LUMBAR SECTION.
RECOVERY.

BY
✓
RUFUS B. HALL, M.D.,
OF CINCINNATI, OHIO ;
PROFESSOR OF GYNECOLOGY IN THE CINCINNATI POLYCLINIC ; CLINICAL LECTURER ON
GYNECOLOGY IN THE MIAMI MEDICAL COLLEGE.



REPRINTED FROM THE TRANSACTIONS OF
THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS,
SEPTEMBER, 1890.

PHILADELPHIA:
WM. J. DORNAN, PRINTER.
1890.

REPORT OF A CASE OF EXTIRPATION OF A CALCULUS FROM THE URETER BY COMBINED ABDOMINAL-LUMBAR SECTION. RECOVERY.

By RUFUS B. HALL, M.D.,
CINCINNATI.

SEPTEMBER 2, 1889, I was consulted by Mrs. C., of Columbus, Ohio, who was referred to me by her family physician, Dr. J. F. Baldwin, of that city. The patient was thirty-six years old, mother of five children, the youngest four and one-half years of age. She was a slender woman, never weighing more than 120 pounds, and at the time of her visit her weight was about 100 pounds. She was anemic and very nervous, caused by her suffering. She had always enjoyed good health previous to the present illness, which dated back to May, 1885, at which time she had an attack of pain that continued twelve hours, which was believed to be renal colic by her physician; when this subsided she felt as well as before, except a tenderness for a day or two over the region of the left kidney and lower part of the abdomen. The physician was so certain that the cause of the pain was the passage of a stone from the left kidney that he had careful inspection made of the urine for days, expecting to find the calculus; in that he was disappointed. Ever after the first attack she was subject to sudden and severe paroxysms of pain, varying in frequency from three to six weeks, for a period of about three years. The pain was located in the region of the left kidney at the commencement of each attack, but in an hour or so would diffuse itself over the whole abdomen. These paroxysms were usually of short duration, varying from three to six hours. During the last eighteen months, however, the attacks of pain remained longer, usually ten to twelve hours, and the intervals became shorter, about ten to fourteen days. Each paroxysm, for a year or more, was preceded by an uneasy sensation in the left side of the abdomen for two or three hours before the severe pain came on. After trying morphine without giving the desired relief, her physician used inhalation of chloroform, keeping the patient under its influence until the paroxysm passed off. The husband, who is a very intelligent gentleman, under the direction and advice of his physician, soon learned to administer the chloroform to his wife during these attacks, keeping her under its influence until they passed off. He told me that he had administered it frequently during the last

eighteen months, giving her enough to make her wholly insensible. He would then remove the chloroform from her face and apply it again when she showed signs of pain, using it much the same as it is used in labor, until the attack passed off. In all of the paroxysms the pain would suddenly disappear, just as it does in renal colic when the stone is forced from the ureter into the bladder. The fact that the stone could never be detected only served to make the diagnosis more obscure. The paroxysms were so like renal colic that her physician would not give up his first diagnosis, yet many of the leading symptoms were absent. She never had hematuria; repeated examination of the urine failed to reveal red blood-disks, pus, or anything to suggest stone or other serious disease of the kidneys. During her four and one-half years' illness she consulted eight or nine prominent physicians, and only one of them was willing to admit the possibility of a stone as the cause of the pain. I mention this to illustrate the difficulty of diagnosis in the case. Her family physician had studied her symptoms so carefully that he believed that she had a stone in the kidney, which was the cause of her illness, and sent her to me for its removal by lumbar incision. The most careful examination of the abdomen failed to give any assistance in diagnosis, and pelvic examination was also negative in its results. A thorough manipulation of the left kidney, which was rendered possible by the exceedingly lax and thin abdominal wall of the patient, did not cause any pain; the kidney could be plainly felt between the two hands, and was not enlarged. There was no hematuria, pain, or any symptoms following the examination suggestive of stone. After her attacks of pain were over she was perfectly relieved except an irritable bladder which followed each one, and continued two or three days afterward. The amount of urine passed in twenty-four hours was normal, and was free from casts and albumin. The family history was negative. After carefully considering the case I was at sea regarding a diagnosis. That the cause of the attacks of pain was located in the abdomen was evident, and that they had some connection with the left kidney or obstruction to the flow of urine through the ureter was reasonably certain, but the cause and location of this obstruction were not apparent. I was strongly inclined to the opinion that there was a stone either in the kidney or ureter, but I was not willing to make a lumbar incision when the diagnosis was so uncertain. If I should do so I would be subjecting the patient to the operation without much hope of relieving her; I therefore advised an abdominal section for diagnostic purposes, and be governed in the operation by what this revealed. If I detected a stone in the kidney, remove the stone by a separate incision through the loin. I was encouraged to perform this novel operation by the confidence I possessed, that a simple exploration of the peritoneal cavity was free from serious risk, and that the exploration would settle the question of diagnosis without a possibility of doubt—the very question which had been the bone of contention by the many distinguished consulting physicians preceding me. If in the exploration I should find a stone in the kidney, its extraction would not be difficult by the lumbar incision after the method of Thornton. By this method we are able to

grasp the kidney with the hand inside of the abdominal cavity, and hold it firmly against the loin in the most favorable position for reaching and removing the stone by the lumbar incision. These were not the only advantages to be gained by abdominal section in this case, as will be made apparent later in its history. The patient was admitted to my "Home" for operation, which was made September 4th, at eleven o'clock. At ten A. M. the patient told me if I would wait a couple of hours I would see her in one of her paroxysms of pain, for she was certain one was coming on. At eleven o'clock she was anesthetized by Dr. C. B. Van Meter, and with the assistance of Dr. Samuel Zurmehly, and in the presence of Drs. J. F. Baldwin and C. A. L. Reed, the operation was made. After the patient was put upon the table, she being then under the influence of chloroform, in palpating the abdomen I was surprised to find a small tumor, which appeared to be the size of a pint cup, in the region of the left kidney. I was certain that this did not exist the day before, and could not account for its presence now. I first made median abdominal section four inches in length, and introduced my hand into the abdominal cavity. I at once passed the hand to the left side and found an elongated, exceedingly thin-walled cyst, somewhat larger than the closed hand. Above this I could outline the kidney, which appeared of normal size. At the lower end of the cyst there was a groove in it, and the end overlapped its posterior attachment. Into this groove I passed my finger, and could feel a stone some three or more inches below the kidney. The diagnosis was perfectly clear to me now. I had to deal with an impacted stone in the ureter. The left hand was not taken out of the abdominal cavity until the stone was removed. As the kidney appeared healthy I did not want to sacrifice it; I therefore made the lumbar incision, as planned before commencing the operation for the removal of a stone from the kidney. After cutting down to the kidney it was fixed with the left hand and incised, making an incision large enough to admit the finger. At once there was a gush of about one pint of urine. The cyst in the abdomen had now disappeared, leaving the kidney in its normal position. I could now feel the stone about two and one-half inches below the pelvis of the kidney in place of three and one-half, as it appeared before the kidney was incised. The most difficult part of the operation yet remained, that of the removal of the stone, which proved to be an exceedingly trying task. With a pair of forceps, introduced through the lumbar incision, guided and aided by the hand inside of the abdominal cavity, several attempts were made to dislodge and remove the stone. It could not be grasped in the bite of the forceps without, at the same time including the surrounding tissues, as could be very easily determined by the hand inside of the abdomen. Knowing as we did the exceeding thinness of the pelvis and ureter forming the collapsed sac, we were very careful in our manipulation to avoid injuring that. After convincing myself that it was impossible to remove the stone through the lumbar incision without more room, and finding that I could push the stone with the ureter up toward the kidney to a limited extent, I decided to lay the kidney reely open, which I did, along the convex border, leaving about half an

inch of kidney tissue at either end of the organ unincised, with the intention of first removing the stone, and later the kidney, if the hemorrhage could not be controlled. The kidney wound was held aside by retractors in the hands of the assistants, and after a tedious effort, by *invaginating* the sac with the hand inside, I was able to reach the stone with the handle of the scalpel, and peel the tissues from it. The hemorrhage from the kidney was controlled by sponges wrung from hot water. I dressed the wound in the loin by placing a rubber drainage-tube in the kidney, but no stitches were placed in that organ. The drainage-tube was left long enough to reach over the side of the bed to a bottle upon the floor, where the urine was collected from the kidney. The wound was sutured carefully around the drainage-tube. As I was not certain that I had not injured the thin sac and thus opened the peritoneal cavity from behind, the very thing I wanted to avoid when I planned the operation, I placed a glass drainage tube in the abdominal cavity, which was removed in eighteen hours, as it was not required. My patient suffered very greatly from shock, which I attribute partly to the loss of blood. Highest pulse-rate after she rallied was 126, highest temperature 100.8° —for one registration only, which was the following day at three P. M. After that time the temperature varied from 98.5° to 99.5° . On examination the stone, which weighed only $3\frac{7}{10}$ grains, and measured $\frac{1}{8}$ inch long, $\frac{5}{16}$ inch wide, and $\frac{4}{16}$ inch thick, was found to have a most peculiar shape, as you will observe from the specimen here presented to you. It represents a section of a cylinder with a slot cut in one side, parallel with its long axis, to a little



The stone— $3\frac{1}{2}$ times the natural size.

past the centre. At one end of the stone, and in the slot, it is blackened from contact with the urine. This blackened end was presenting toward the dilated portion of the ureter and kidney, where it was impacted, with the narrow slot spoken of extending parallel with the ureter, making an opening about the size of the thickness of an ordinary pin, which was quite sufficient to carry off all the urine from the kidney so long as no mucus or other solid material interfered with this small opening. But if a little mucus or any inflammatory material became deposited over this opening you can readily understand how it would close it as perfectly as a ball-valve. With the escape of urine from the kidney thus prevented we have a very satisfactory explanation of the pain, as well as the cause of the uneasy sensation before the attacks of renal colic, and their sudden termination without the passage of a stone, as well as why I did not detect the cyst the day before the operation, for it is evident that none existed save for a few hours preceding and during the attacks of pain. All of that portion of the ureter

above the stone, with the pelvis of the kidney, would be subjected to dilatation until the pressure was strong enough to press the foreign material through the small opening, when the patient would get the sudden relief, as though a stone had passed; thus, it is easily explained how the symptoms were so misleading to her physicians. The four and one-half years the patient suffered from this malady was quite sufficient to dilate the pelvis and ureter into a great sac, such as existed in this case and spoken of in describing the operation. We have a reason equally as good why the stone was not forced on into the bladder when we examine its shape. With its rough exterior it would be a difficult stone to pass under favorable circumstances, and when it was once impacted with its long axis corresponding with the long axis of the ureter, the slot gave exit to the urine, except when blocked by mucus or debris, and that would pass through before the pressure was long enough continued to have any effect in dislodging or driving the stone along the tube. The stitches were removed from the abdominal wound on the seventh day. The wound was healed perfectly. On the following day the stitches were removed from the lumbar wound. For eight days the urine passed from the bladder contained small blood-clots, while that from the incised kidney remained clear.

A very interesting fact was observed in the secreting power of the incised kidney in comparison with the other organ. The drainage-tube must have been placed in such a manner as to drain nearly or quite all of the urine from the incised kidney into the bottle. For each eight ounces of urine passed from the bladder there would be about six and one-half or seven ounces deposited in the bottle. It appeared that the incision in the kidney did not materially interfere with its secreting power. On the eighth day I removed the drainage-tube from the kidney wound; for four days after that it appeared as though all the urine from the left kidney passed through the sinus. After the twelfth day only a small quantity escaped occasionally. This gradually diminished until the sixteenth day, and on the twenty-first day the wound was perfectly healed. On the thirty-sixth day she went home in perfect health, and has remained so to this day.

So far as I have been able to examine I cannot find a case of removal of a calculus from the ureter by the combined abdominal-lumbar operation, and but four cases of removal of a stone from the ureter by any other procedure. I find the report of a case by Dr. Cullingworth, in the *Trans. Path. Soc. of London*, 1884 and 1885, vol. xxxvi. p. 278, of abdominal section and removal of stone from the ureter near the bladder; patient died on the fourth day. Dr. Terrey's case: in which he was able to remove a stone from the ureter near the kidney by the lumbar incision only; patient recovered. The case is recorded in the *American Journal of the Medical Sciences*, vol. xcvii. p. 579. A case by Dr. Berg, in *Centralblatt für Gynäkologie*, January 28, 1890. A female, sick fifteen years,

who had passed about twenty small calculi : Temporary relief followed, and then very severe dysuria set in. By aid of the sound, stone in the bladder was detected. The urethra was dilated, the finger introduced, and it was found that a calculus was impacted in the right ureter, the point projecting into the bladder; the bladder was opened from the vagina and the stone extracted without difficulty. And that of Dr. A. T. Cabot, *Boston Medical and Surgical Journal*, September 11, 1890—removal from ureter by *lumbar incision only*. These cases are so different from mine that they need not be considered, so far as the operative procedure is concerned. The case of Dr. Cullingworth would probably have recovered if he had, at the same time, extirpated the kidney on the affected side. That of Dr. Terrey was no more serious than that of removal of a stone from the kidney by the lumbar incision; while that of Dr. Berg is so different from the others that it has hardly any bearing upon any of them at all, and is only mentioned from the fact that it was a case of removal of stone from the ureter.

The case I report is an interesting one :

1. On account of the great difficulty of a correct diagnosis before abdominal exploration.

2. The ease with which a correct diagnosis was made after abdominal exploration in this heretofore troublesome and obscure case.

3. If the case had been operated upon by the lumbar incision only, a correct diagnosis could not have been made, neither could the stone have been removed by that method, and the patient would have recovered with a fistulous opening in the loin.

4. It illustrates in a clear and concise manner the possibilities of the combined method of operating for extraction of calculi from the ureter.

